Claims

1. An organic electroluminescent device comprising:

at least a cathode, an emitting layer, a hole-injecting layer and an anode on a substrate in this order;

the hole-injecting layer comprising a metal oxide.

2. The organic electroluminescent device according to claim 1, wherein the hole-injecting layer has a thickness of 40 to 1000 nm.

3. The organic electroluminescent device according to claim 1, wherein the metal oxide is an oxide of a metal of the groups 3 to 13 in the long form periodic table.

4. The organic electroluminescent device according to claim 1, wherein the metal oxide is one, or two or more metal oxides selected from a molybdenum oxide, vanadium oxide, hafnium oxide, yttrium oxide, zinc oxide and aluminum oxide.

5. The organic electroluminescent device according to claim 1, wherein the hole-injecting layer comprises 0.01 to 50 atm% of the metal oxide.

6. The organic electroluminescent device according to claim 1, wherein a protecting layer is provided

between the hole-injecting layer and the anode.

7. The organic electroluminescent device according to claim 6, the protecting layer comprises a metal.

8. The organic electroluminescent device according to claim 7, wherein the protecting layer comprises Ag, Au or an alloy thereof.

9. The organic electroluminescent device according to claim 6, wherein the protecting layer comprises a semiconductor.

10. The organic electroluminescent device according to claim 6, wherein the protecting layer comprises an insulator.

11. The organic electroluminescent device according to claim 1, wherein an insulative layer is provided between the cathode and the emitting layer.

12. The organic electroluminescent device according to claim 1 or 11, wherein an electron-transporting layer is provided between the cathode and the emitting layer, or the insulative layer and the emitting layer.

13. An organic electroluminescent device comprising:

at least a cathode, an emitting layer, a metal oxide layer and an anode on a substrate in this order.

14. The organic electroluminescent device according to claim 13, wherein the metal oxide layer comprises at least one metal oxide selected from a molybdenum oxide, vanadium oxide, rhenium oxide, ruthenium oxide, tungsten oxide, zinc oxide, titanium oxide and copper oxide.

15. The organic electroluminescent device according to claim 13, wherein the anode comprises a conductive film and a protecting film in this order from the substrate.

16. The organic electroluminescent device according to claim 15, wherein the protecting film comprises an oxide, a nitride or an oxynitride of at least one element selected from Si, Ge, Mg, Ta, Ti, Zn, Sn, In, Pb and Bi.

17. The organic electroluminescent device according to claim 15, wherein the protecting film comprises an oxide, a nitride or an oxynitride of at least one element selected from the group consisting of Mo, V, Cr, W, Ni, Co, Mn, Ir, Pt, Pd, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Er and Yb.

18. The organic electroluminescent device according to claim 15, wherein the protecting film transmits light.

19. The organic electroluminescent device according

to claim 15, wherein a metal layer is provided between the conductive film and the protecting film.

20. The organic electroluminescent device according to claim 15, wherein a metal layer is provided between the metal oxide layer and the anode, or the emitting layer and the metal oxide layer.

21. The organic electroluminescent device according to claim 19 or 20, wherein the metal layer comprises an alloy containing at least one metal selected from Mg, Ag and Zr.

22. The organic electroluminescent device according to claim 13, wherein the cathode comprises at least one metal selected from alkali metals and alkaline earth metal, and a metal oxide.

23 The organic electroluminescent device according to claim 22, wherein the metal oxide contained in the cathode is at least one metal oxide selected from $Li_xTi_2O_4$, $Li_xV_2O_4$, Er_xNbO_3, La_xTiO_3, Sr_xVO_3, Ca_xCrO_3 and Sr_xCrO_3 (X is 0.2 to 5).

24. The organic electroluminescent device according to claim 22, wherein the metal oxide contained in the cathode is at least one metal oxide selected from A_xMoO_3 (A is K, Cs, Rb, Sr, Na, Li or Ca) (x is 0.2 to 5) and $A_xV_2O_5$ (A is K, Cs, Rb, Sr, Na, Li or Ca) (x is 0.2 to 5).

25. The organic electroluminescent device according to claim 1 or 13, wherein the anode is a transparent electrode and the cathode is a reflecting electrode.

26. A display comprising the organic electroluminescent device according to claim 1 or 13.